

WHAT IS CLAIMED IS:

1. A rare earth magnet comprising:
rare earth magnet particles; and
a rare earth oxide which is present among the rare earth
5 magnet particles, the rare earth oxide being represented by the
following general formula (I):



- 10 where each of R and R' is one element selected from the group
consisting of yttrium (Y), lanthanum (La), cerium (Ce),
praseodymium (Pr), neodymium (Nd), samarium (Sm), europium (Eu),
gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho),
erbium (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu), and
15 $0 < x < 1$.

2. A rare earth magnet as claimed in Claim 1, where each of
R and R' is one element selected from the group consisting of
yttrium (Y), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium
20 (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu).

3. A rare earth magnet as claimed in Claim 1, wherein R is
neodymium (Nd), and R' is one element selected from the group
consisting of terbium (Tb), dysprosium (Dy), holmium (Ho), erbium
25 (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu).

4. A rare earth magnet as claimed in Claim 3, wherein R' is
terbium (Tb), and $0 < x < 0.83$.

- 30 5. A rare earth magnet as claimed in Claim 3, wherein R' is
dysprosium (Dy), and $0 < x < 0.86$.

6. A rare earth magnet as claimed in Claim 3, wherein R' is
holmium (Ho), and $0 < x < 0.86$.

7. A rare earth magnet as claimed in Claim 3, wherein R' is erbium (Er), and $0 < x < 0.88$.

5 8. A rare earth magnet as claimed in Claim 3, wherein R' is thulium (Tm), and $0 < x < 0.89$.

9. A rare earth magnet as claimed in Claim 3, wherein R' is ytterbium (Yb), and $0 < x < 0.90$.

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10. A rare earth magnet as claimed in Claim 3, wherein R' is lutetium (Lu), and $0 < x < 0.91$.

11. A rare earth magnet as claimed in Claim 1, wherein the rare
15 earth magnet particles have a particle size ranging from 1 to 500 μm .

12. A rare earth magnet as claimed in Claim 1, wherein the rare earth magnet is a Nd-Fe-B based magnet.

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13. A rare earth magnet as claimed in Claim 1, wherein the rare earth magnet is an anisotropic magnet.

14. A process for producing a rare earth magnet, comprising:
25 preparing a mixture containing rare earth magnet powder and rare earth oxide powder whose rare earth oxide is represented by the following general formula (I):



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where each of R and R' is an element selected from the group consisting of yttrium (Y), lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), samarium (Sm), europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho),

erbium (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu), and
0 < x < 1;

charging a forming die with the mixture; and
forming the mixture.

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15. A process as claimed in Claim 14, wherein the rare earth
magnet powder is anisotropic rare earth magnet powder, wherein
the process further comprises provisionally forming the mixture
while carrying out orientation of the rare earth magnet powder
10 in a magnetic field, after the charging the forming die with the
mixture and before the forming the mixture.

16. A process as claimed in Claim 14, wherein the forming the
mixture is carried out by using a pressure sintering.

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17. A motor comprising:

a rare earth magnet including

rare earth magnet particles; and

a rare earth oxide which is present among the rare
20 earth magnet particles, the rare earth oxide being represented
by the following general formula (I):



25 where each of R and R' is one element selected from the group
consisting of yttrium (Y), lanthanum (La), cerium (Ce),
praseodymium (Pr), neodymium (Nd), samarium (Sm), europium (Eu),
gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho),
erbium (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu), and
30 0 < x < 1.